IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Appl. No: 09/928,553

Applicant(s): Paul A.P. Kaufholz

Filed: August 13, 2001

Title: Multi-Device Audio-Video Combines Echo Cancelling

T.C./A.U.: 2600/2626

Examiner: James S. Wozniak

Atty. Docket No. NL000433

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On: 020 June 2006

By: William S. Francos

APPEAL BRIEF

Honorable Assistant Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In connection with the Notice of Appeal dated April 20, 2006, Applicants provide the following Appeal Brief in the above captioned application.

TABLE OF CASES

1. Sensonics Inc. v Aerosonics Corp., 38 USPQ 2d 1551-1554 (CAFC 1996).
2. W.L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303 (CAFC 1983).
3. Graham v. John Deere Co., 383 US 1, 148 USPQ 459 (CCPA 1966).
4. In re Bergel 130 USPQ 206 (CCPA 1961).
5. In re Sponnoble, 160 USPQ 237 (CCPA 1969).
6. In re Evanaga, 4 USPQ2d 1249 (CAFC 1987).
7. Pro-Mold and Tool Co. v. Great Lakes Plastics, Inc. 37 USPQ2d 1626 (CAFC 1996).
8. Cardiac Pacemakers Inc. v. St. Jude Medical Inc. 72 USPQ 2d 1222 (CAFC 2004).
9. Crown Operations International Ltd. V. Solutia Inc. 62 USPQ2d 1917 (CAFC 2002).

1. Real Party in Interest

The real party in interest as assignee of the entire right and title to the invention described in the present application is Koninklijke Philips N.V. having a principle place of business at Groenewoudseweg 2, Eindhoven, The Netherlands.

2. Related Appeals and Interferences

There are no known related appeals or interferences at this time.

3. Status of the Claims

Claims 1-17 are pending in the present application. All have been finally rejected. The rejected claims 1-17 are duplicated in the Appendix.

4. Status of Amendments

A final Office Action on the merits was mailed on January 20, 2006. A Reply to the Final Office Action was filed on March 20, 2006 amending claim 1 and traversing the rejections of the final Office Action. An Advisory Action dated March 31, 2006 was received and indicated that the Reply of March 20 would be entered. In response thereto, a Notice of Appeal was filed on April 20, 2006.

5. Summary of the Claimed Subject Matter

In one embodiment, a general speech-enhanced device 20 is shown in Fig. 1. Generally, user control inputting has been immediate such as symbolized by the ingoing line of bi-directional line pair 46, and such control may be mechanical through user buttons or the like, or remote through IR signaling or the like. The outputting of control signalizations has been through lamps or other visual display indicators, through text display, buzzers, and other. Furthermore, control signalizations may be exchanged through line 46 pair with other connected audio-video devices.

Item 30 represents the user functionality of the General Speech Enhanced Device that receives external control from lines 46, and optionally

produces audio on output 46 for general usability, such as broadcasted audio, and on line 38 for other purposes as will be discussed hereinafter. The latter via addition mechanism 32 is sent to loudspeakers 48. Item 22 represents a Voice-Controlled User Interface that may produce feedback on line 34 to addition mechanism 32 for thereby canceling feedback sounds from outputting on loudspeakers 48. Otherwise, item 22 may produce non-audio output on interface 46 for external usage, or for controlling device 30.

Speech input by an operator to the device may be done on microphone 28. The speech so received can be outputted on the outgoing line of line pair 42. It may also be used as an alternative to speech received on the ingoing line of line pair 42 for communicating to Automatic Echo Canceller block 26. The latter will output a speech signal on the outgoing channel of bi-directional channel 40. This speech signal closely corresponds to the speech signal received on microphone 28, from which, however, any audio signal outputted by the device via item 48 illustrated in Figure 1 has been deleted to a great extent. Such speech signal has been received on a dedicated channel indicated by 60 in Figure 1.

The speech signal so corrected for the audio output of the device itself can either be outputted on the outgoing channel of bi-directional speech channel 40, or rather be sent to the input of speech recognition item 24. The latter may alternatively select to receive externally transmitted speech received on the ingoing channel of bi-directional speech channel 40. Item 24 will recognize the speech so received. The recognition result may be outputted as text on the outgoing channel of bi-directional channel pair 44, or may be forwarded to Voice-Controlled User Interface item 22. The latter may alternatively receive externally inputted text along the ingoing channel of bi-directional channel pair 44. The VCUI module 22 can produce further control signals as discussed earlier, or produce audio output for feeding to loudspeaker boxes 48, or output video display, which has not been discussed for brevity. Still further, VCUI module may generate a selective disable signal on line 36 for any or all of modules 24, 26, 28, 48 for application in cascaded architectures.

In an embodiment, a method for operating a user-interactive, multi-device, audio-video system that contains user speech recognizing facilities and echo canceling facilities for avoiding the recognizing of speech output from the system as user speech and echo canceling facility includes: driving each echo canceling facility to combine each facility's functional ability for canceling one or more mutually unique cancelable speech entities, and combining such cancelled entities for overall non-recognition by the system.

In another embodiment a multi-device, audio-video system is disclosed that contains speech recognizing facilities and echo canceling facilities for avoiding the recognizing of speech output from the system as user speech. The system is also adapted to combine cancelled entities for overall non-recognition.

6. Grounds of Rejection to be Reviewed on Appeal

The issues in the present matter are whether:

I. Claims 1, 5-8 and 12-17 are properly rejected under 35 U.S.C. § 103(a) in view of *Finn, et al.* (US 6,505,057) and *Stammler, et al.* (US 6,839,670); and

II. Claims 2-4 and 9-11 are properly rejected under 35 U.S.C. § 103(a) in view of *Finn, et al., Stammler, et al.* and further in view of *Knittle, et al.* (US 5,761,638);

7. Argument

I. Rejection of Claims 1, 5-8 and 12-17 are properly rejected under 35 U.S.C. § 103(a) in view of *Finn, et al.* and *Stammler, et al.*

Applicants respectfully traverse the propriety of the noted rejection of claims 1, 5-8 and 12-17.

Applicants respectfully traverse the rejection of claims under 35 U.S.C. § 103(a) as being unpatentable over *Parulski, et al.* further in view of *Roks, et al.*

Analysis of obviousness under 35 U.S.C. §103 requires determination of the scope and content of the prior art, the differences between the prior art, and the claims at issue, and the level of ordinary skill in the pertinent art. *W.L. Gore & Associates, Inc. v. Garlock, Inc.* 220 USPQ 303, 311 (1983) (citing

Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (CAFC 1966)). Moreover, there must have been something present in the teachings of the prior art to suggest to one skilled in the art that the claimed invention would have been obvious. *W.L. Gore & Associates* at 311 (citing *In re Bergel* 130 USPQ 206, 208 (CCPA 1961); and *In re Sponnoble* 160 USPQ 237, 244 (CCPA 1969)).

Furthermore, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is a reason, suggestion or motivation do so. The reason, suggestion or motivation may come from references themselves; from knowledge of those skilled in art that certain references or disclosures in references are known to be of interest in the particular field; or from nature of the problem to be solved to do so found in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *Pro-Mold and Tool Co. v. Great Lakes Plastics Inc.* 37 USPQ2d 1626 (CAFC 1996). Moreover, prior knowledge in the field must be supported by tangible teachings of reference materials. *Cardiac Pacemakers Inc. v. St. Jude Medical Inc.* 72 USPQ 2d 1333, 1336 (CAFC 2004).

However, hindsight is never an appropriate motivation for combining references and/or the requisite knowledge available to one having ordinary skill in the art. To this end, relying upon hindsight knowledge of applicants' disclosure when the prior art does not teach nor suggest such knowledge results in the use of the invention as a template for its own reconstruction. This is wholly improper in the determination of patentability. *Sensonics Inc. v Aerosonics Corp.*, 38 USPQ 2d 1551-1554 (CAFC 1996), citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.* 220 USPQ 303. Moreover, the determination of obviousness cannot be based on the hindsight combination of components selectively culled out from the prior art to fit the parameters of the claims at issue. *Crown Operations International Ltd. v. Solutia Inc.* 62 USPQ2d 1917, 1922 (CAFC 2002).

a. *Finn, et al.* fails to disclose the combining of cancelled entities for overall non-recognition by the system.

Claim 1 is drawn to method operating a user-interactive, multi-device, audio-video system *that contains user speech recognizing facilities and echo canceling facilities for avoiding the recognizing of speech output from the system as user speech.* The method also features:

"...driving each echo canceling facility to combine each facility's functional ability for canceling one or more mutually unique cancelable speech entities, and ***combining such cancelled entities for overall non-recognition by the system.***

Claim 8 includes a similar feature.

The Office Action asserts that this and other features of claim 1 are described in *Finn, et al.* at column 16, line 1-column 18, line 6. The Office Action does not cite specifically the disclosure in *Finn, et al.* of the combining the cancelled entities for ***overall non-recognition by the system.*** Respectfully, Applicants respectfully submit that the Office Action thus fails the basic tenet of examination as set forth in MPEP § 706. To this end, the noted section states: "The goal of examination is to ***clearly articulate any rejection*** early in the prosecution process so that the applicant has the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity. (emphasis provided). Rather, Applicants are provided over two columns of the disclosure to attempt to determine from Finn, et al. that which the Examiner proffers as the disclosed features of Claim 1. Thus, Applicants respectfully request the clear articulation and specific citation in the applied art of the noted features of claim 1, or withdraw the rejection of claim 1. For at least this reason, Applicants submit that the rejection of claim 1 is improper and should be withdrawn.

The above notwithstanding, Applicants respectfully submit that the cited portion of *Finn, et al.* lacks at least the disclosure of the noted features of claim 1. In particular, the cited portion of *Finn, et al.* discloses the use of echo cancellors and far and near end echo cancellors for use with far and near end microphones. However, the cited portion of the reference, as understood by the undersigned, does not disclose the featured *speech recognizing facilities and*

echo canceling facilities for avoiding the recognizing of speech output from the system as user speech; or the combining of cancelled entities **for non-recognition** by the system.

For at least the reasons set forth above, it is respectfully submitted that because at least one feature of claims 1 and 8 is not disclosed in the applied art, a *prima facie* case of obviousness has not been made. Therefore, claims 1 and 8 and the claims that depend directly or indirectly therefrom are patentable over the applied art.

b. The Office Action fails to clearly articulate a rejection of claim 15

Claim 15 is drawn to a speech enhanced device for use in a multi-device audio-video system. The device includes: *"... a speech input/output means interposed between said speech recognizing and echo canceling facilities, for **intercoupling another speech-enhanced device.**"*

The Office Action states that *Finn, et al.* teaches multiple connected echo-canceling facilities between multiple inputs and outputs. The Office Action relies on *Stammler, et al.* for the disclosure of a microphone and speaker between the speech recognition and echo cancellation facilities. However, the Office Action fails to cite specifically in the applied art the noted features of claim 15. For instance, the Office Action cites Col. 16, line through Col. 18, line 6 and Fig. 9A as disclosing the features of claim 15 (kindly refer to pp. 5-6 of the Office Action). However, Applicants respectfully submit that the Office Action does not cite the disclosure in the applied art of *a speech input/output means **intercoupling another speech-enhanced device***, as specifically recited in claim 15.

c. The Office Action fails to provide the necessary motivation to combine references.

Applicants respectfully submit that the proper motivation to combine references is not provided. Again, Applicants submit that the Examiner has impermissibly used the teachings of the instant application as a blueprint to combine the teachings of *Finn, et al.* and *Stammler, et al.* without any suggestion

or teaching for such combination by either reference or in the knowledge generally available to one of ordinary skill in the art. Moreover, the tangible evidence from which the knowledge is garnered is not provided. The Examiner merely states that *Finn, et al.* and *Stammler, et al.* are analogous art of voice recognition using echo cancelling and thus the combination affords requisite motivation. First, it is the combination of *Finn, et al.* and *Stammler, et al.* that provides the combination of voice recognition and echo cancelling. (While *Finn, et al.* discloses voice recognition, this is only in the context of prescribing the need for noise filtering.) Second, the mere coincidence that two references are from analogous art does not provide the motivation to combine the references. In summary, Applicants reiterate that rather than finding a motivation or suggestion to develop the novel features of the present invention in the combination of *Finn, et al.* and *Stammler, et al.*, the Examiner has inferred such motivation or suggestion after reading the description of the present invention.

In addition, Applicants noted that in the Advisory Action, the Examiner asserts that any judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning. The Examiner also notes that such reconstruction is proper as long as only knowledge that was within the level of ordinary skill at the time the invention was made and does not glean knowledge only from Applicant's disclosure. That said, the Examiner does not provide extrinsic evidence that the reconstruction is proper within the framework set forth in the Advisory Action.

As stated above, the motivation to combine references may come from a variety of sources. If the Examiner is relying upon extrinsic evidence of the motivation to combine references in accordance with the framework provided in the Advisory Action, such evidence has not been provided. It is respectfully submitted that because the requisite extrinsic evidence supporting the motivation to combine references has not been furnished, the combination of references is improper and should be withdrawn. If the motivation to combine references is based on personal knowledge of the Examiner, an affidavit under 37 CFR § 1.104(d)(2) is respectfully requested.

Applicants submit, therefore, with respect to independent claims 1, 8 and 15, the rejections under 35 USC 103(a) are improper and should be withdrawn. Applicant respectfully requests withdrawal of the rejection and allowance of claims 1, 8 and 15 over the art or record.

With regard to claims 6, 7, 12-14, 16 and 17, these claims ultimately depend from claims 1, 8 and 15, which have been shown to be allowable. Accordingly, claims 6, 7 and 12-14, 16 and 17 are also allowable by virtue of their dependency upon an allowable base claim.

II. Rejection of claims 2-4 and 9-11 under 35 U.S.C. § 103(a) in view of *Finn, et al., Stammler, et al.* and further in view of *Knittle, et al.*

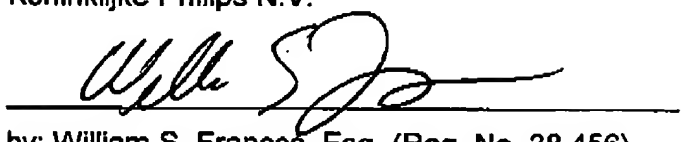
Claims 2-4 and 9-11 depend from claims 1 and 8, respectively. As noted above, because the independent claims are patentable, the noted dependent claims are also patentable at least because of their dependence thereon. Accordingly, Applicants reiterate in their entirety the arguments provided in the traversal of the rejection of claim 1 and 8 and apply these arguments to the present rejection. Moreover, Applicants respectfully reiterate the impropriety of the combination of references and maintain this position with respect to claims 2-4 and 9-11.

8. Conclusion

In view of the foregoing, applicant(s) respectfully request(s): the withdrawal of all objections and rejections of record; the allowance of all the pending claims; and the holding of the application in condition for allowance.

Respectfully submitted on behalf of:

Koninklijke Philips N.V.



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Appendix

Claims on Appeal

Claims on Appeal:

1. A method for operating a user-interactive, multi-device, audio-video system that contains user speech recognizing facilities and echo canceling facilities for avoiding the recognizing of speech output from the system as user speech, the method comprising:

in the presence of a plurality of devices, each including a functionally separate speech recognizing facility, and echo canceling facility, driving each echo canceling facility to combine each facility's functional ability for canceling one or more mutually unique cancelable speech entities, and combining such cancelled entities for overall non-recognition by the system.

2. The method as claimed in Claim 1, wherein the step of combining includes arranging each echo canceling facility in series.

3. The method as claimed in Claim 2, wherein said series arrangement feeds each speech recognizing facility in a centralized manner.

4. The method as claimed in Claim 2, wherein said series feeds each various speech recognizing facility in a distributed manner.

5. The method as claimed in Claim 1, wherein the step of combining centralizes said echo canceling facilities, and feeds each facility comprising the speech recognizing facilities in a distributed manner.

6. The method as claimed in Claim 1, wherein the step of combining centralizes each facility comprising said echo canceling facilities, and each facility comprising said speech recognizing facilities in a joint control facility.

7. The method as claimed in Claim 1, wherein the step of combining arranges that each echo canceling facility comprising said echo-canceling facilities is

disposed within a centralized control device, and feeds each selected speech recognizing facility comprising the speech recognizing facilities in parallel.

8. A multi-device, audio-video system that contains speech recognizing facilities and echo canceling facilities for avoiding the recognizing of speech output from the system as user speech,

wherein in the presence of a plurality of devices, each separate device including a functionally separate speech recognizing facility, wherein each echo canceling facility is arranged to combine its echo canceling ability using joint canceling means for canceling one or more mutually unique cancelable speech entities, and combining means for combining such cancelled entities for overall non-recognition by the system.

9. The system as claimed in Claim 8, wherein such combining means include a serial arrangement that arranges each selected echo-canceling facility in series.

10. The system as claimed in Claim 9, wherein said series arrangement feeds the speech recognizing facility in a centralized manner.

11. The system as claimed in Claim 9, wherein said series arrangement feeds various speech recognizing facilities in a distributed manner.

12. The system as claimed in Claim 8, wherein said combining means includes that said echo canceling facilities are centralized in a control device, and are arranged for feeding various speech recognizing facilities in a distributed manner.

13. The system as claimed in Claim 8, wherein said combining means are arranged to centralize said echo canceling facilities and speech recognizing facilities in a joint control facility.

14. The system as claimed in Claim 8, wherein said combining means centralize each selected echo canceling facility and feeds each selected speech recognizing facility in parallel.

15. A speech enhanced device for use in a multi-device audio-video system having speech recognizing facilities and echo canceling facilities for avoiding the recognizing of speech output from the device as user speech, comprising:

speech input/output means interposed between said speech recognizing and echo canceling facilities, for intercoupling another speech-enhanced device.

16. The device as claimed in Claim 15, further comprising:

control means for selectively disabling one of:

speech-recognizing facilities, echo canceling facilities and audio output facilities of the device.

17. The device as claimed in Claim 15, further comprising:

microphone out means, and

control means for selectively controlling one or more of said speech recognizing facilities, said echo-canceling facilities, and said input/output means.

Appendix

Evidence (None)

Appendix

Related Proceedings (None)